

INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

Applicant: CANADIAN INOVATECH INC. et al.
Serial No.: PCT/CA2003/001359
Title: ANTIMICROBIAL COMPOSITION AND METHOD FOR USE
Filed: 18 September 2003
Our Ref.: 342078.0011(old) 228513.00011(new)

November 30, 2004

VIA FACSIMILE
(with confirmation by mail)

International Preliminary Examination Authority
European Patent Office
D-80298 Munich
Germany

Dear Sir:

In accordance with Article 34(1) of the *Patent Cooperation Treaty* and Rule 66.3 and 66.8 of the *Regulations Under the PCT*, Applicant hereby replies to the second Written Opinion dated November 2, 2004 and submits amendments to the claims as currently pending as reflected in the enclosed claim amendment pages.

By reason of the present amendment, the following has occurred:

- Claims 1, 4, 10, 12, 16, 17, 19, 21 and 22 were replaced by the amended claims bearing the same respective numbers; and
- Claims 2, 3, 5 - 9, 11, 13 - 15, 18 and 20 remain unchanged.


It is respectfully submitted that the amended claims have overcome the clarity and new subject matter rejections raised by the Examiner and are novel and inventive over the cited prior art. Entry of the present amendment in the subject application is respectfully requested.

Pursuant to Rule 66.4 of the Regulations under the PCT, applicant further respectfully requests that the Examiner prepare a third written opinion or alternatively, establish a favourable International Preliminary Examination report on the basis of the amendments submitted herewith.

Respectfully submitted,

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Agents for the Applicant

per:



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WHAT IS CLAIMED IS:

1. As an agent for suppressing the growth of enteric pathogens in the gut of livestock and for preventing and treating gastrointestinal infections in livestock, the antimicrobial composition comprising:
 - (a) a cell wall lysing substance or its salt;
 - (b) at least one of dried egg powder and albumen; and
 - (c) a sequestering agent.
2. The antimicrobial composition according to claim 1, wherein the enteric pathogens include members of the following families of bacteria: *Clostridium perfringens*, *Escherichia coli*, *Salmonella Typhimurium* and *Salmonella Mbandaka*.
3. The antimicrobial composition according to claim 1, wherein the cell wall lysing substance or its salt is lysozyme.
4. The antimicrobial composition according to claim 1, wherein the antimicrobial composition includes both dried egg powder and albumen.
5. The antimicrobial composition according to claim 4, wherein the sequestering agent is an organic acid.
6. The antimicrobial composition according to claim 5, wherein the sequestering agent is a metal-chelator.
7. The antimicrobial composition according to claim 5, wherein the sequestering agent is selected from the group consisting of: (a) disodium ethylenediamine tetraacetate (EDTA); (b) citric acid; (c) chitosan.
8. The antimicrobial composition according to claim 1 further includes a lantibiotic.
9. The antimicrobial composition according to claim 8, wherein the lantibiotic is nisin.

10. The antimicrobial composition according to claim 8, wherein the ratio of the cell wall lysing substance or its salt, the at least one of dried egg powder and albumen, the sequestering agent and the lantibiotic, is 50:150:50:20 by weight.
11. The antimicrobial composition according to claim 1, wherein the antimicrobial composition is in powdered form.
12. The antimicrobial composition according to claim 1, wherein the antimicrobial composition is in aqueous solution form.
13. The antimicrobial composition according to claim 12, wherein the antimicrobial composition is water-soluble to allow the antimicrobial composition to be mixed with drinking water for administration to the livestock.
14. The antimicrobial composition according to claim 1, wherein the antimicrobial composition is a feed additive.
15. The antimicrobial composition according to claim 1, wherein the gastrointestinal infections include necrotic enteritis, *Clostridium perfringens* enteritis and diarrheal disease.
16. The antimicrobial composition according to claim 1, wherein the ratio of the cell wall lysing substance or its salt, the at least one of dried egg powder and albumen and the sequestering agent, is 2:5:3 by weight.
17. The antimicrobial composition according to claim 1, wherein the antimicrobial composition includes dried egg powder and the dried egg powder is capable of suppressing additional microbes in the livestock gut.
18. The antimicrobial composition according to claim 17 wherein the additional microbes include molds and viruses.
19. The antimicrobial composition according to claim 1 wherein the antimicrobial composition is dried egg powder and the dried egg powder is capable of suppressing additional enzymes in the livestock gut.

20. The antimicrobial composition according to claim 19 wherein the additional enzymes include proteases and lipases.
21. An antimicrobial composition for use in the prevention and treatment of gastrointestinal infections in livestock, the antimicrobial composition comprising:
- (a) a cell wall lysing substance or its salt;
 - (b) at least one of dried egg powder and albumen;
 - (c) a sequestering agent; and
 - (d) a lantibiotic.
22. An antimicrobial composition for suppressing the growth of enteric pathogens in the gut of livestock comprising:
- (a) a cell wall lysing substance or its salt;
 - (b) at least one of dried egg powder and albumen; and
 - (c) a sequestering agent;

wherein the ratio of the cell wall lysing substance or its salt, the at least one of dried egg powder and albumen and the sequestering agent, is 2:5:3 by weight.